

WHAT IS CLAIMED IS:

1. A reproducing/recording apparatus comprising a first disk tray for mounting a first disk thereon and a second disk tray for mounting a second disk that is of a type different from the type of the first disk thereon, the first disk tray being adapted to be moved into and away from the apparatus through a single disk inlet/outlet port with the second disk tray laid thereon.
2. The reproducing/recording apparatus according to claim 1, wherein a first reproducing/recording mechanism for reproducing data from and/or recording data onto the first disk and a second reproducing/recording mechanism for reproducing data from and/or recording data onto the second disk are arranged respectively at fore and back positions relative to the disk inlet/outlet port.
3. The reproducing/recording apparatus according to claim 1, wherein said first disk is a cartridge/disk combination including a disk main body contained in a cartridge and said second disk is a bare disk.
4. The reproducing/recording apparatus according to claim 1, wherein said first disk is a disk adapted to be used with a blue laser beam for reproducing/recording of data and said second disk is a disk adapted to be used with a red laser beam or a blue laser beam for reproducing/recording of data.
5. The reproducing/recording apparatus according to claim 1, further comprising:
 - a locking mechanism for locking the first disk tray and the second disk tray laid on the first disk tray together.
6. The reproducing/recording apparatus according to claim 5, wherein said locking mechanism has a resilient detent member arranged on the first disk tray and provided at the front end thereof with an engaging projection and an engaging hole cut through the second disk tray and adapted to be engaged with the corresponding engaging projection.
7. The reproducing/recording apparatus according to claim 6, wherein said resilient detent member is adapted to align the first disk.

8. The reproducing/recording apparatus according to claim 2, wherein
said first reproducing/recording mechanism reproduces data from and/or records
data onto the second disk.

9. The reproducing/recording apparatus according to claim 2, further
5 comprising:

a second tray driving mechanism to be used for driving the second disk tray to
move to the side of the disk inlet/outlet port and a first tray driving mechanism to be used
for driving the first disk tray in a state of carrying thereon the second disk tray to move to
the side of the disk inlet/outlet port, said first tray driving mechanism having a drive
10 source, a first gear unit linked to the drive source and a first tray rack held in engagement
with the first gear unit and arranged at the first disk tray, said second tray driving
mechanism having a drive source, a second gear unit linked to the drive source and a
second tray rack held in engagement with the second gear unit and arranged at the second
disk tray, said second gear unit having a loosing mechanism to be used for separating the
15 drive force of the second tray rack from the second gear unit without load when moving
the first disk tray to the disk inlet/outlet port with the second disk tray laid thereon.

10. The reproducing/recording apparatus according to claim 9, wherein
said loosing mechanism has a base gear, an idle gear arranged coaxially with the
base gear so as to be rotatable relative to the base gear and a biasing member for biasing
20 the idle gear in the sense of rotation of the base gear when moving the second disk tray
toward the disk inlet/outlet port.

11. The reproducing/recording apparatus according to claim 2, further
comprising:

a 4-position shifting mechanism to be used for shifting the position of each of the
25 first reproducing/recording mechanism and the second reproducing/recording mechanism
to one of the predetermined four positions,

said 4-position shifting mechanism having a drive source, a pinion linked to the
drive source, a first rack to be engaged with the pinion, a first cam mechanism linking the
first rack and the second reproducing/recording mechanism and driving said second

reproducing/recording mechanism to move between the first position and the second position in response to the movement of the first rack, a second rack to be engaged with the pinion, a second cam mechanism linking the second rack and the first reproducing/recording mechanism and driving said first reproducing/recording mechanism
5 to move between a first position and a second position in response to the movement of the second rack, a third rack to be engaged with said pinion and arranged oppositely relative to said first rack with said pinion interposed between them, a third cam mechanism linking the third rack and the second reproducing/recording mechanism and driving said second reproducing/recording mechanism to move between the second position and the first
10 position in response to the movement of the third rack, a first switching mechanism for switching the engagement of the first rack and the pinion to the engagement of the second rack and the pinion and a second switching mechanism for switching the engagement of the second rack and the pinion to the engagement of the third rack and the pinion.

12. The reproducing/recording apparatus according to claim 3, wherein
15 said first reproducing/recording mechanism has a traversing mechanism arranged oppositely relative to the recording area of said cartridge/disk combination or said bare disk, a clamping mechanism arranged oppositely relative to the traversing mechanism with the cartridge/disk combination or the bare disk interposed between them in order to clamp said cartridge/disk combination or said bare disk, whichever appropriate, and a keep
20 member for biasing the cartridge/disk combination toward the first disk tray when clamping said cartridge/disk combination by means of the clamping mechanism.

13. The reproducing/recording apparatus according to claim 12, wherein
said clamping mechanism has a holding section for holding a disk and a back and forth moving mechanism adapted to move the holding section toward and away from the
25 first disk tray, the back and forth moving mechanism being arranged in such a way that the distance by which the holding section is separated from the first disk tray is sufficiently large to allow the second disk tray mounted by the second disk to move between the disk inlet/outlet port and the second reproducing/recording mechanism.